भारतीय मानक

Indian Standard

IS 13690 : 2021

मक्खन — विशिष्टि

(पहला पुनरीक्षण)

Butter — Specification

(First Revision)

ICS 67.100.20

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भारतीय मानक ब्यूरो
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April 2021 **Price Group 3**

Dairy Products and Equipment Sectional Committee, FAD 19

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Dairy Products and Equipment Sectional Committee had been approved by the Food and Agriculture Division Council.

Butter is an important dairy product. Generally it is sold either as table butter or as white butter/cooking butter. It is manufactured mainly from sweet cream and also to some extent ripened cream.

This Indian Standard was originally published in 1992. This first revision has been undertaken to harmonize the standard with Codex Standard (CODEX STAN 279-1971) and FSSAI Regulations.

In the formulation of this standard, due consideration has been given to the *Food Safety and Standards Act*, 2006 and Regulations framed thereunder; the *Legal Metrology Act*, 2009 and Rules framed thereunder and the *Essential Commodities Act*, 1955. However, this standard is subject to restrictions imposed under these, wherever applicable.

The composition of the Committee responsible for formulation of the standard is given in Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 1960 ‘Rules for rounding-off numerical values (*revised*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

BUTTER — SPECIFICATION

(First Revision)

1 SCOPE

This standard prescribes the requirements, methods of sampling and test for butter.

2 REFERENCES

The following standards listed below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
1479 (Part 1) : 2020	Methods of test for dairy industry: Part 1 Rapid examination of milk (*first revision*)
2491 : 2013	Food hygiene — General principles — Code of practice (*third revision*)
3507 : 1966	Methods of sampling and test for butter
5401 (Part 1) : 2012/ ISO 4832 : 2006	Microbiology — General guidance for enumeration of coliforms: Part 1 Colony count technique (*second revision*)
5403 : 1999	Method for yeast and mould count of foodstuffs (*first revision*)
5887	Methods for detection of bacteria responsible for food poisonin
(Part 1) : 1976	Isolation, identification and enumeration of *Escherichia coli* (*first revision*)
(Part 2) : 1976	Isolation, identification and enumeration of *Staphylococcus aureus* and *faecal streptococci* (*first revision*)
(Part 3) : 1999	General guidance on methods for the detection of Salmonella (*second revision*)
7224 : 2006	Iodized salt, vacuum evaporated iodized salt and refined iodized salt — Specification (*second revision*)
7769 : 1975	Method for sensory evaluation of table butter
10500 : 2012	Drinking water — Specification (*second revision*)
11546 : 2012	Milk and milk products — Guidance on sampling (*second revision*)
14988 (Part 1) : 2020/ ISO 11290-1 : 2017	Microbiology of food and feeding stuffs Horizontal method for detection and enumeration of *Listeria monocytogenes*: Part 1 Detection method (*first revision*)
5402 (Part 1) : 2021/ ISO 4833-1 : 2013	Microbiology of the food chain — Horizontal method for the enumeration of microorganisms: Part 1 Colony count at 30 °C by the pour plate technique (*third revision*)

3 DEFINITION

3.1 Butter

Butter is a fatty product derived exclusively from milk and/or products obtained from milk, principally in the form of an emulsion of the type water-in-oil.

4 GRADES

Butter shall be of the following grades:

a) Table butter, and
b) White butter/cooking butter.

5 REQUIREMENTS

5.1 Description

Butter shall be smooth, firm and of uniform colour and shall not show sign of curd. The flavour and aroma of butter shall be mild, clean and pleasant. It shall be free from vegetable fats and oils, animal fat, wax, mineral oil and added extraneous matter.

5.2 Milk intended for use in butter making shall be free from preservatives, neutralizers and adulterants [*see* IS 1479 (Part 1)].

5.3 Table Butter

Table butter shall be made from pasteurized cream or other milk fat based products obtained from pasteurized cow milk or buffalo milk or goat milk or sheep milk or camel milk or a combination thereof with or without ripening with starter cultures of harmless lactic acid and/or flavour producing bacteria. If potable water is used as an ingredient, it must conform to IS 10500.

Table butter shall be free from preservatives (except salt conforming to dairy grade of IS 7224), may contain permitted food additives including colouring matter within the limits as specified under the *Food Safety and Standards* (*Food Products Standards and Food Additives*) *Regulations*, 2011.

5.4 White Butter/Cooking Butter

White butter/cooking butter shall be made from cream or other milk fat based products obtained from pasteurized cow milk or buffalo milk or goat milk or sheep milk or camel milk or a combination thereof with or without ripening with starter cultures of harmless lactic acid and/or flavour producing bacteria. If potable water is used as an ingredient, it must conform to IS 10500.

White butter/cooking butter shall be free from preservatives including salt and any added colouring matter. It may contain permitted food additives within the limits as specified under the *Food Safety and Standards* (*Food Products Standards and Food Additives*) *Regulations*, 2011.

5.5 Hygienic Requirements

The product shall be processed, packed, stored and distributed under strict hygienic conditions as prescribed in IS 2491. The product shall be transported and stored at temperature not exceeding 10 °C.

5.6 Butter shall also comply with the requirements given in Table 1 and Table 2.

6 PACKING AND MARKING

6.1 Packing

The product shall be packed in cartons, packets and sealed tins in quantities as stipulated under the provisions of the *Legal Metrology Act*, 2009 and Rules framed thereunder. In the case of packets and cartons, each unit of butter shall be wrapped in clean hard neutral parchment. Only clean new tins lacquered on the inside shall be used and they shall be closed airtight by soldering or reaming or both.

6.2 Marking

6.2.1 The following information shall be marked legibly on each tin, cartons or packet of butter:

a) The name and grade of the product (table butter/white butter/cooking butter);
b) Name and address of the manufacturer;
c) Batch or code number;
d) Month and year of manufacturing or packing;

Table 1 Requirements for Butter

(*Clause* 5.6)

Sl No.	Characteristics	Requirements		Method of Test, Ref to
		Table Butter	White Butter/Cooking Butter	
(1)	(2)	(3)	(4)	(5)
i)	Milk fat, percent by mass, *Min*	80.0	80.0	**6** of IS 3507
ii)	Moisture, percent by mass, *Max*	16.0	–	**4** of IS 3507
iii)	Acidity (as lactic acid), percent by mass, *Max*	0.15	0.06	**8** of IS 3507
iv)	Milk solids-not-fat, percent by mass, *Max*	2.0	–	
	or	1.0	1.5	**5** of IS 3507
	Curd, percent by mass, *Max*			
v)	Salt, percent by mass, *Max*	2.5	–	**7** of IS 3507

Table 2 Microbiological Requirements for Butter

(*Clause* 5.6)

Sl No.	**Characteristic**	**Requirement**				**Method of test, Ref to**
		Sampling Plan [1]		Limit (cfu)		
		n	c	m	M	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Aerobic plate count	5	3	2.5×10^4/g	5×10^4/g	IS 5402 (Part 1)
ii)	Coliform count	5	2	10/g	20/g	IS 5401 (Part 1)
iii)	*Staphylococcus aureus* (coagulase positive)	5	2	10/g	50 /g	IS 5887 (Part 2)
iv)	Yeast and mould count	5	3	20/g	50/g	IS 5403
v)	*Escherichia coli*	5	0	Absent/g	NA	IS 5887 (Part 1)
vi)	*Salmonella* sp	5	0	Absent/25 g	NA	IS 5887 (Part 3)
vii)	*Listeria monocytogenes*	5	0	Absent/g	NA	IS 14988 (Part 1)

[1] For sampling plan see Annex A.

e) Net quantity;

f) Best before .... (month and year in capital letters);

OR

Best before........................ (months) from the date of packing/manufacture; and

g) Any other requirements under the *Food Safety and Standards* (*Packaging and Labelling*) *Regulations*, 2011 and the *Legal Metrology Act*, 2009 and Rules framed thereunder.

6.2.2 *BIS Certification Marking*

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

7 SAMPLING

Representative sample of butter shall be drawn and tested for conformity to this standard by the method prescribed in IS 3507 and IS 11546.

ANNEX A

[*Table* 2]

SAMPLING PLAN FOR MICROBIOLOGICAL REQUIREMENTS

A-1 SAMPLING PLAN FOR MICROBIOLOGICAL REQUIREMENTS

The terms n, c, m and M used in this standard have the following meaning:

n = Number of units comprising a sample.

c = Maximum allowable number of units having microbiological counts above m for 2-class sampling plan and between m and M for 3-class sampling plan.

m = Microbiological limit that separates unsatisfactory from satisfactory in a 2-class sampling plan or acceptable from satisfactory in a 3-class sampling plan.

M = Microbiological limit that separates unsatisfactory from satisfactory in a 3-class sampling plan.

A-2 INTERPRETATION OF RESULTS

2-Class Sampling Plan (where n, c and m are specified)	**3-Class Sampling Plan (where n, c, m and M are specified)**
i) Satisfactory, if all the values observed are ≤ m ii) Unsatisfactory, if one or more of the values observed are > m or more than c values are > m	i) Satisfactory, if all the values observed are ≤ m ii) Acceptable, if a maximum of c values are between m and M and the rest of the values are observed as ≤ m iii) Unsatisfactory, if one or more of the values observed are > M or more than c values are > m

ANNEX B

(*Foreword*)

COMMITTEE COMPOSITION

Dairy Products and Equipment Sectional committee, FAD 19

Organization	*Representative(s)*
National Dairy Research Institute, Karnal	Dr Manmohan Singh Chauhan (***Chairman***)
All India Food Processors Association, New Delhi	Dr K. L. Gaba Mr Vijay Gaur (*Alternate* I) Mr Santash Kumar (*Alternate* II)
Bihar State Cooperative Milk Producers' Federation Ltd, (COMPFED), Delhi	Mr Sushil Kumar Mr Rupesh Raj (*Alternate*)
CONCERT, Chennai	Mr K. Ramachandran Mr M. R. Krishnan (*Alternate*)
Confederation of Indian Food Trade & Industry, New Delhi	Ms Priyanka Gupta Dr Anirudha Chhonkar (*Alternate*)
Confederation of Indian Industry, New Delhi	Ms Neha Aggarwal Ms Arti Gupta (*Alternate*)
Centre for Analysis and Learning in Livestock and Food (CALF), Anand	Dr Rajesh Nair Dr Rajeev Chawla (*Alternate*)
Department of Animal Husbandry, Dairying & Fisheries, New Delhi	Mr Sagar Mehra Mr Rajesh Kumar Gupta (*Alternate*)
Directorate of Marketing and Inspection, Faridabad	Deputy Agricultural Marketing adviser Senior Marketing Officer-Standard (*Alternate*)
Export Inspection Council of India, New Delhi	Dr S. K. Saxena Mr Vikas Dahiya (*Alternate*)
Envirocare Labs Pvt Ltd, Thane	Mr Nilesh Amritkar Ms Sabeena K. (*Alternate* I) Ms Kavita Gokhale (*Alternate* II)
FICCI Research and Analysis Centre, New Delhi	Dr S. K. Manocha Dr Ajay Sharma (*Alternate*)
Food Safety and Standards Authority of India, New Delhi	Dr Monica Puniya Ms Tripti Tayal (*Alternate*)
Gujarat Cooperative Milk Marketing Federation Ltd, Anand	Mr Sameer Saxena Mr Sayan Banerjee (*Alternate*)
Haryana Dairy Development Coop Federation Ltd, Panchkula	Mr S. S. Kohli Mr Y. P. Singh (*Alternate*)
IDMC Ltd, Anand	Mr Devender Gupta Mr Prakash Maheshwari (*Alternate*)
Indian Dairy Association, New Delhi	Dr G. S. Rajorhia Dr Satish Kulkarni (*Alternate*)
Indian Stainless Steel Development Association, Gurugram	Mr Rohit Kumar Mr Rajat Aggarwal (*Alternate*)
Infant and Young Child Nutrition Council	Dr Nirupama Sharma Mr Kiran Desai (*Alternate*)
Jupitor Glass Works, New Delhi	Mr Karan Nangia Mr Amreek Singh Puri (*Alternate*)

Organization	*Representative(s)*
Mother Dairy Fruit and Vegetable Ltd, Delhi	Ms Nita Sen Mr Shailender Kumar (*Alternate*)
National Dairy Development Board, Anand	Dr R. S. Lahane Mr Suresh Pahadia (*Alternate*)
National Dairy Research Institute, Karnal	Dr Vivek Sharma Dr Rajesh Kumar Bajaj (*Alternate*)
National Institute of Food Technology Entrepreneurship & Management (NIFTEM), Sonipat	Dr P. K. Nema
National Institute of Nutrition, Hyderabad	Dr B. Santosh Kumar Dr Sylvia Fernandez Rao (*Alternate*)
Pradeshik Co-op Dairy Federation Ltd, Lucknow	Mrs Shabnam Chopra
Punjab State Coop Milk Producers' Federation Limited	Dr Brar
Rajasthan Co-op Dairy Federation (RCDF) Ltd, Jaipur	Mr J. D. Singh
Tamil Nadu Co-op Milk Producers' Federation Limited, Chennai	Mr S. R. Sankar Mr T. M. James Dinakaran (*Alternate*)
Tetra Pak India Pvt Ltd, Pune	Mr Shashikant Ramnath Suruse Mr Sameer Singh Suhail (*Alternate*)
Vimta Labs Limited, Hyderabad	Dr Jagadeesh Kodali Dr Muni Nagendra Prasad Poola (*Alternate*)
BIS Directorate General	Shrimati Suneeti Toteja, Scientist 'E' and Head (FAD) [Representing Director General (*Ex-officio*)]

Member Secretary

Dr Bhawana
Scientist 'D' (FAD), BIS

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This Indian Standard has been developed from Doc No.: FAD 19 (16230).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Published by BIS, New Delhi